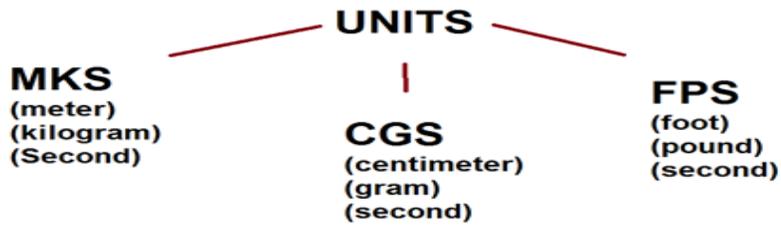


MEASUREMENT

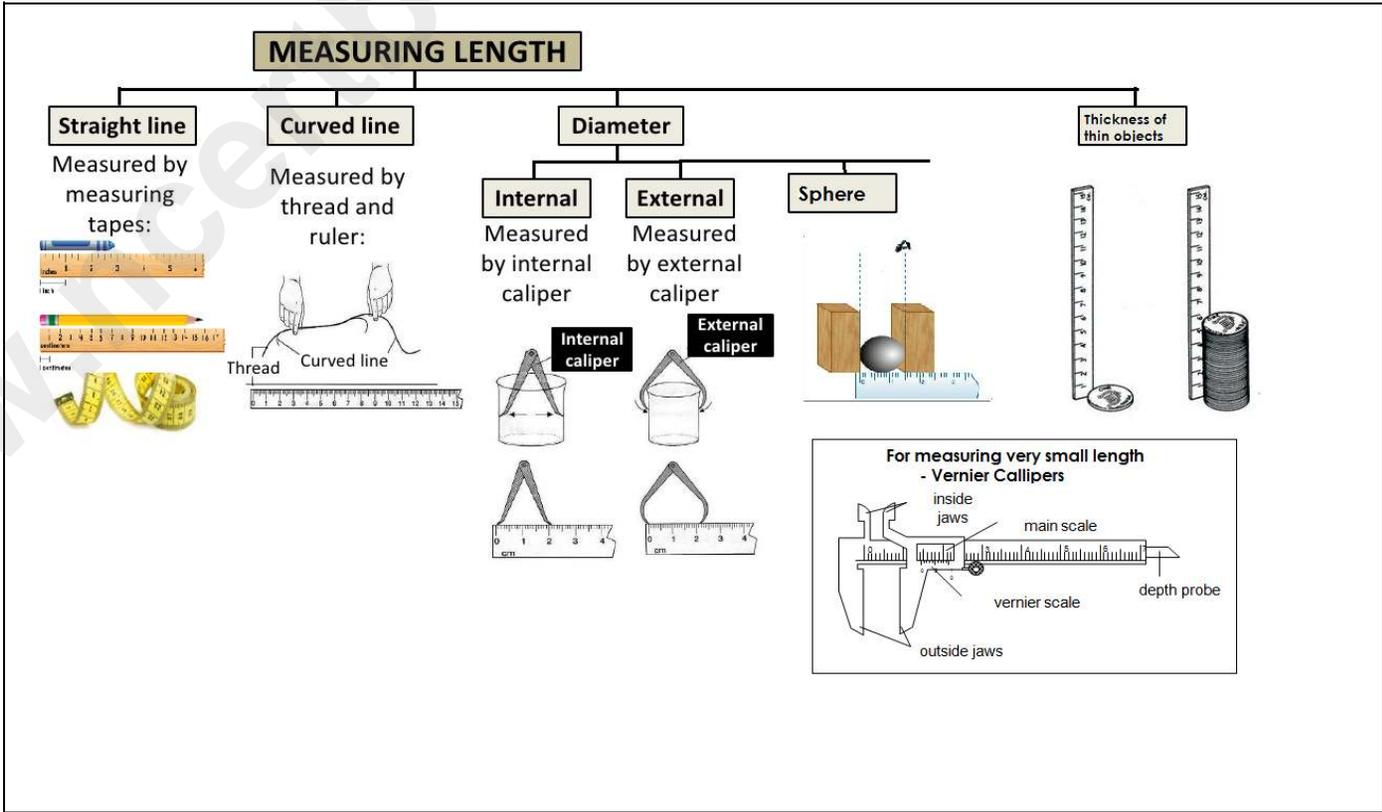
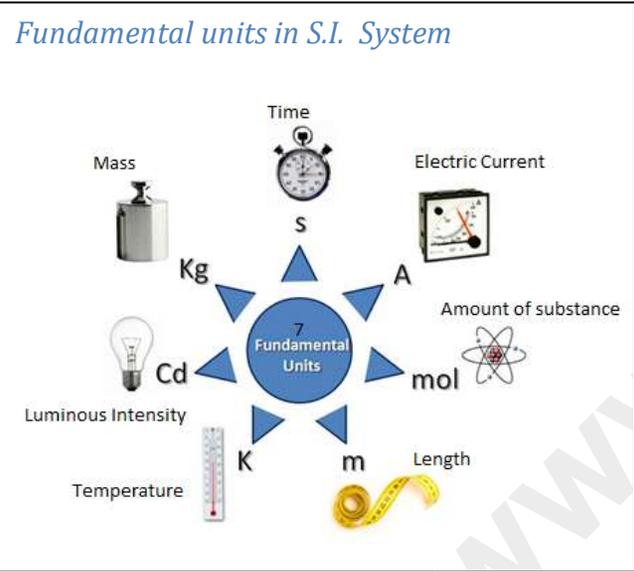
Kinds of Units :
1. Fundamental or basic units



	Systems		
	SI	CGS	FPS
Length	meter (m)	centimeter (cm)	foot (ft)
Mass	kilogram (kg)	gram (g)	pound
Time	second (s)	second (s)	second (s)

Derived Units :

Quantity	Definition	Derived Unit (Name)
Area	Length x length	m ² (meters squared)
Volume	area x length	m ³ (cubic meters)
Speed	distance / unit time	m/s (meters per second)
Density	mass / unit volume	kg/m ³ (kilogram per cubic meter)
Acceleration	Change in speed / unit time	m/s ² (meter per second squared)
Force	Mass x acceleration	kg.m/s ² (newton, N)
Energy	Force x distance	kg.m ² /s ² (joule, J)
Pressure	Force / unit area	kg/(m.s ²) (pascal, P)

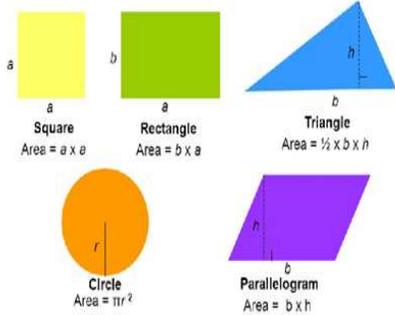


Multiple and sub-multiple units :

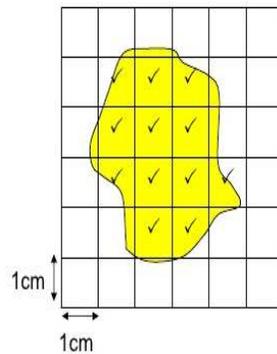
	Prefix	Abbreviation	Power of 10	Number
multiples	tera	T	10^{12}	1 000 000 000 000
	giga	G	10^9	1 000 000 000
	mega	M	10^6	1 000 000
	kilo	k	10^3	1 000
	hecto	h	10^2	100
	deca	da	10^1	10
submultiples	deci	d	10^{-1}	0.1
	centi	c	10^{-2}	0.01
	milli	m	10^{-3}	0.001
	micro	μ	10^{-6}	0.000001
	nano	n	10^{-9}	0.000000001
	pico	p	10^{-12}	0.000000000001

MEASUREMENT OF AREA

Area of regular shapes



Area of irregular shape



Number of ticks = 12
 Area = 12cm^2 (approx.)

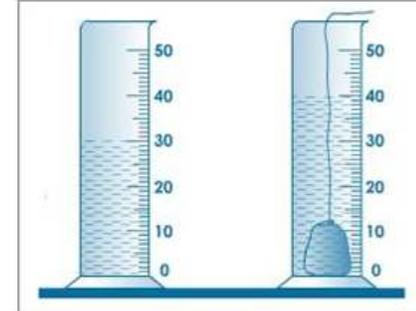
MEASUREMENT OF MASS

MEASUREMENT OF VOLUME

Volume of regular shapes

Figure	Formula	Variables
 Cube	a^3	a = length of edge
 Cuboid	$l \times w \times h$	l = length w = width h = height
 Cylinder	$\pi \times r^2 \times h$	r = radius of circular face h = height
 Cone	$\frac{1}{3} \times \pi \times r^2 \times h$	r = radius of circular base h = height from tip to base
 Sphere	$\frac{4}{3} \times \pi \times r^3$	r = radius

Volume of irregular solids



The difference in the above two readings gives the volume of the solid.

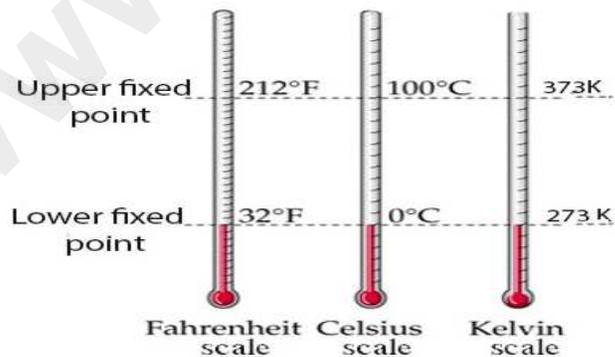
SI Unit - cubic metre
$1\text{ m}^3 = 1000000\text{ cm}^3$
$1\text{ cm}^3 = 1000\text{ mm}^3$
$1\text{ m}^3 = 1000\text{ L}$
$1\text{ mL} = 1\text{ cm}^3$
$1\text{ L} = 1000\text{ mL}$

MEASUREMENT OF TIME

- 1 year = 365 days
- 1 year = 12 months
- 1 year = 52 weeks
- 1 week = 7 days
- 1 day = 24 hours
- 1 hour = 60 minutes
- 1 minute = 60 seconds

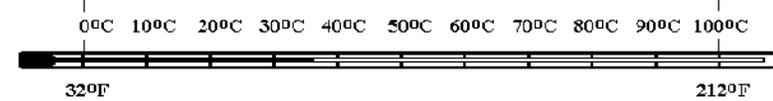


MEASUREMENT OF TEMPERATURE

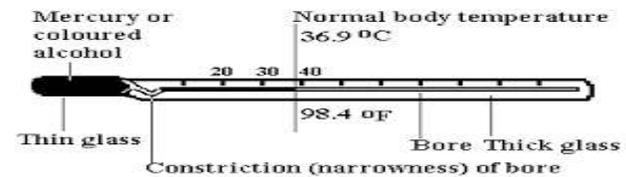


Types of Thermometer :

- Laboratory Thermometer



- Clinical Thermometer



- Maximum-minimum Thermometer (Six Thermometer)